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PENDING CLAIMS

1-20. (Cancelled)

21. (Currently amended) An electrode for an energy storage and conversion device, comprising

a substrate; and

a layer of an active material comprising a metal disulfide, metal selenide, or metal telluride, and having a thickness in the range from about 5 to about 114 microns deposited on the substrate, wherein the layer comprises greater than 95% of the active material.

22-23. (Cancelled)

24. (Currently amended) The electrode of claim 21, wherein the active material is a metal disulfide.

25. (Previously Presented) The electrode of claim 21, wherein the active material is FeS_2, CoS_2, WS_2, NiS_2, or MoS_2.

26. (Previously presented) The electrode of claim 21, wherein the active material is FeS_2.

27. (Previously Presented) The electrode of claim 21, wherein the active material is microstructured.

28. (Previously Presented) The electrode of claim 21, wherein the active material is nanostructured.

29-40. (Cancelled)

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41. (Previously Presented) An electrode for an energy storage and conversion device, comprising

a substrate; and

a layer of an active material comprising FeS_2, CoS_2, WS_2, NiS_2, MoS_2, metal selenide, or metal telluride, and having a thickness in the range from about 5 to about 114 microns deposited on the substrate, wherein the layer comprises greater than 95% of the active material.

42. (Previously Presented) The electrode of claim 41, wherein the active material is FeS_2.

43. (Previously Presented) The electrode of claim 41, wherein the active material is microstructured.

44. (Previously Presented) The electrode of claim 41, wherein the active material is nanostructured.

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45. (Currently Amended) An electrode for an energy storage and conversion device, comprising

a substrate; and

a layer of an active material having a thickness in the range from about 5 to about 114 microns comprising a metal disulfide, metal selenide, or metal telluride deposited on the substrate by a thermal spray method comprising providing a feedstock mixture comprising an effective quantity of a source of elemental sulfur and a metal disulfide, an effective quantity of a source of elemental selenium and a metal selenide, or an effective quantity of a source of elemental tellurium and a metal telluride and thermally spraying the feedstock mixture onto the substrate wherein the layer of active material comprises greater than 95% of the active material.

46. (Currently amended) The electrode of claim 45, wherein the active material is a metal disulfide.

47. (Previously Presented) The electrode of claim 45, wherein the active material is FeS_2, CoS_2, WS_2, NiS_2, or MoS_2.

48. (Previously Presented) The electrode of claim 45, wherein the active material is microstructured.

49. (Previously Presented) The electrode of claim 45, wherein the active material is nanostructured.

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50. (Currently amended) An electrode produced by the process of:

thermally spraying a feedstock mixture onto a substrate to produce a film of an active material having a thickness of about 1 to about 1000 microns, wherein the feedstock material comprises an effective quantity of a source of elemental sulfur and a metal disulfide active material, an effective quantity of a source of elemental selenium and a metal selenide active material, or an effective quantity of a source of a elemental tellurium and a metal telluride active material wherein the film of an active material comprises greater than 95% of the active material.

51. (Currently amended) The electrode of Claim 50, wherein the feedstock mixture comprises a source of elemental sulfur and metal disulfide.

52. (Currently amended) The electrode of Claim 51, wherein the metal disulfide is FeS_2, CoS_2, WS_2, NiS_2, or MoS_2.

53. (Previously Presented) The electrode of Claim 50, wherein the active material is microstructured.

54. (Previously Presented) The electrode of Claim 50, wherein the active material is nanostructured.